

# AUTHOR INDEX

- Aleem, M. I. H., 80  
 Alexander, Barbara, 69  
 Alexander, M., 80  
 Allanson, E., 160  
 Anderson, R. F., 179  
 Aquarone, Eugênio, 263  
 Asselbergs, E. A. M., 311
- Ball, C. Olin, 322  
 Barkemeyer, H. R., 237  
 Baskin, A. David, 315  
 Bayley, C. H., 353  
 Bennis, B. G., 353  
 Berenson, Herman, 46  
 Bollen, W. B., 31  
 Borzani, W., 136  
 Bouma, Cecelia, 212, 223  
 Brandly, Paul J., 190
- Carlucci, A. F., 243, 247, 251, 254  
 Casely, R. E., 1  
 Chabbert, Y. A., 193  
 Chandra, Purna, 31  
 Chemerda, J. M., 237  
 Claydon, T. J., 278  
 Colwell, R. R., 104  
 Crisley, F. D., 282  
 Crosby, Paul F., 133, 148
- Dack, G. M., 205  
 Danga, F., 339  
 Darby, Richard T., 146  
 Darken, Marjorie A., 46  
 Daugherty, M. A., 169  
 Davis, J. B., 329  
 Dawson, Frederick W., 39  
 De Moss, Ralph D., 298  
 Donovanick, Richard, 117  
 Dugan, P. R., 357
- Effland, M. J., 169  
 Elberg, Sanford S., 52  
 El-Bisi, Hamed M., 305  
 Engelbrecht, Richard S., 298  
 Esselen, William B., 305
- Falcone, M., 136  
 Faunce, Kenneth, Jr., 52  
 Ferguson, W. E., 311  
 Fitzgerald, George P., 269  
 Fletcher, D. W., 22  
 Flippin, Reid S., 366, 371  
 Frank, H. A., 141  
 Fryer, H. C., 278  
 Fulton, M., 361
- Gaden, Elmer L., Jr., 123  
 Gaudin, A. M., 84, 91  
 Gaudy, Anthony F., Jr., 298  
 Gingras, B. A., 353  
 Goldsmith, Margaret T., 156
- Goodman, Joseph J., 363  
 Gotaas, Harold B., 163  
 Graham, Robert P., 238  
 Greenstein, Maurice, 156  
 Grinnan, E., 160  
 Gunderson, M. F., 98  
 Gyllenberg, H., 20
- Hafez, E. S. E., 22  
 Hajny, G. J., 5  
 Halkias, D., 361  
 Hall, Benedict Mark, 378  
 Hall, H. H., 179  
 Hampson, James W., 293  
 Hankin, Lester, 209  
 Harriman, L. A., 1  
 Hartman, Paul A., 114, 382  
 Heckly, Robert J., 52  
 Hendershot, W. F., 5  
 Henderson, R. D., 12  
 Higuchi, Kiyoshi, 55  
 Hoffman, Robert K., 15, 39, 152  
 Holder, Ian A., 341  
 Huntsberger, David V., 382
- Jacobson, D. R., 76  
 Janssen, Robert J., 39  
 Ježková, Zdeňka, 274  
 Johnson, D. B., 169
- Kaplan, Arthur M., 315  
 Kavanagh, F., 160  
 Kells, H. R., 234  
 Kelly, Stanley, 238  
 Kenney, Harold E., 345  
 Kozlowski, M. A., 237  
 Kuehn, Harold H., 133, 148
- Langston, C. W., 212, 223  
 Larson, Margaret H., 182  
 Lear, S. A., 234  
 Linfield, W. M., 1  
 Lippitz, G., 205  
 Liston, J., 104  
 Litsky, Warren, 60  
 Loewus, Frank A., 238  
 Lundgren, D. G., 357
- McAleer, W. J., 237  
 McNeil, Ethel, 156  
 Mead, Dorothy D., 55  
 Medrek, T. F., 60  
 Mickelson, M. N., 366, 371  
 Miller, W. M., 76  
 Mohr, W. P., 311  
 Moore, W. E., 169  
 Moustafa, Ahmad M., 63  
 Mular, A. L., 84, 91
- Nagel, Charles W., 27  
 Nelson, G. E. N., 179  
 Ng, Henry, 27
- Niemelä, S., 20  
 Noel, D. R., 1
- O'Connor, R. F., 84, 91  
 Overcast, W. W., 335
- Parks, Thomas R., 305  
 Patte, J. C., 193  
 Peterson, A. C., 98  
 Peterson, W. H., 5, 182  
 Phillips, Charles R., 15  
 Pipes, Wesley O., 163  
 Porter, J. N., 174, 339  
 Pramer, David, 243, 247, 251, 254
- Ramadan, F. M., 199  
 Raymond, R. L., 329  
 Rhodes, R. A., 179  
 Rushing, N. B., 286
- Schley, Donald G., 15  
 Schwerdtfeger, E. J., 169  
 Schwinghamer, E. A., 349  
 Seagers, W. J., 12  
 Senn, Vincent J., 286  
 Shapiro, Jennie E., 341  
 Shaw, R. K., 12  
 Shehata, A. M. El-Tabey, 73  
 Shekleton, Margaret C., 179  
 Shirk, Richard, J., 52  
 Simpson, K. L., 27  
 Singer, Solomon, 190  
 Sjolander, Newell O., 46  
 Skean, J. D., 335  
 Smith, Charles G., 42  
 Smith, Leland L., 363  
 Smith, M. A., 256  
 Sormunen, T., 20  
 Spiner, David R., 152  
 Squires, Sherman, 209  
 Stewart, George F., 27  
 Stoudt, T. H., 237  
 Strong, Dorothy Hussemann, 109  
 Stuart, L. S., 156  
 Sugiyama, H., 205  
 Surgalla, M. J., 55
- Tresner, H. D., 174, 339  
 Tunin, D., 160
- Vairo, Marina L. R., 136  
 Vaughn, Reese H., 27
- Wall, Monroe E., 345  
 Wasserman, Aaron E., 291, 293  
 Weaver, Elmer A., 345  
 Wessman, G. E., 55  
 Wilhelm, J. J., 174  
 Willits, C. O., 141  
 Wiseman, R. F., 76  
 Woodburn, Margy J., 109
- Yarashus, D. A., 361

# SUBJECT INDEX

- Actinomycetes, preferential isolation of, from soils, 174  
Aeration and novobiocin fermentation, 42  
*Agaricus campestris*, development of mushroom flavor in mycelium of, 63  
Agglutinating antiserum for the isolation of *Salmonella* from egg albumin, 205  
Aguardente de cana, yeasts isolated from sugar cane during production of, 73  
Alcohols and glycols, chromatographic analyses of sugar, 169  
Algicidal chemicals, loss of, in swimming pools, 269  
*n*-Alkane utilization and lipid formation by a nocardia, 329  
Amino acid decarboxylase in bacteria of chick, effect of chlortetracycline on, 69  
Anilides and carbanilides, antibacterial synergism between halogenated biphenols and aromatic, 1  
Antibacterial synergism between halogenated biphenols and aromatic anilides and carbanilides, 1  
Antibiotic, effect of, on microflora of packaged salad mix, 341  
Antibiotics and survival of *Escherichia coli* in sea water, 251  
Antibiotics, cellophane transfer and activity of combinations of, 193  
Antibiotics, effect of, on the shelflife of prepeeled potatoes, 311  
Antibiotics in poultry meat preservation, 27  
Antifungal activity of thiosemicarbazones and their copper complexes, 353  
Antiserum, agglutinating, for the isolation of *Salmonella* from egg albumin, 205  
Assay evaluation of separation of microorganisms by flotation, 84  
Assay for thiamine, evaluation of the *Lactobacillus viridescens*, 209  
Assay, fungicide, by spore germination in shaker flasks, 146  
  
*Bacillus subtilis* var. *niger*, flotation of spores of, 91  
Bacteria, citric acid concentration on the formation of diacetyl by lactic acid, 286  
Bacteria, effect of raw milk storage and, on lactic culture activity, 278  
Bacteria of chicks, effect of chlortetracycline on  $B_6$  and amino acid decarboxylase in, 69  
Bacteria, stored dehydrated, as reagents for the degradation of  $C^{14}$ -labeled sugars, 238  
Bacteria, survival of bifid, in water, 20  
Bacterial analysis of prepared frozen foods, sampling procedures for, 382  
Bacterial resistance, *in vitro*, to chlortetracycline, 27  
Bacterial survival in frozen food, 109  
Bacteriophages and survival of *Escherichia coli* in sea water, 254  
Bifid bacteria, survival of, in water, 20  
Bioengineering and fermentation, 123  
Bioengineering from a microscopic viewpoint, 117  
Biphenols, antibacterial synergism between halogenated, and halogenated anilides and carbanilides, 1  
Bovine rumen, persistence of lactobacilli and streptococci in, during penicillin administration, 76  
*Brucella melitensis*, lyophilization of, 52  
  
 $C^{14}$ -labeled sugars, stored dehydrated bacteria as reagents for the degradation of, 238  
Carbanilides, antibacterial synergism between the halogenated biphenols and halogenated aromatic, 1  
Carbon and nitrogen assimilation by *Eidamella deflexa*, 148  
Cations, effect of, on mannosidostreptomycinase and streptomycin production, 12  
Cell suspensions of *Pasteurella pestis*, stability of, 55  
Cellophane transfer and activity of combinations of antibiotics, 193  
Chemicals, effect of, on microflora of packaged salad mix, 341  
Chick, effect of chlortetracycline on  $B_6$  and amino acid in bacteria of, 69  
Chicken pies, enterococcus:coliform ratios in frozen, 114  
Chlortetracycline effects on  $B_6$  and amino acid decarboxylase in bacteria of chicks, 69  
Chlortetracycline, *in vitro* bacterial resistance to, 27  
Chlortetracycline, thermal inactivation of, in meat menstrua, 305  
Chromatographic analyses of sugar alcohols and glycols, 169  
Chromatographic study of the oligomycin complex, 182  
Citric acid concentration and the formation of diacetyl by lactic acid bacteria, 286  
*Clostridium botulinum* Type A, goldfish assay of toxin of, 282  
Cocci, study of, in grass silage, 212  
Coliform bacteria and enterococci in undisturbed soil, 60  
Continuous alcoholic fermentation of blackstrap molasses, 136  
Copper complexes, antifungal activity of thiosemicarbazones and their, 353  
Cortisone A-ring, microbiological reduction of the, by *Streptomyces* sp., 237  
  
Deep freeze, long-term maintenance of *Streptomyces* in, 339  
Dehydrated bacteria as reagents for the degradation of  $C^{14}$ -labeled sugars, 238  
Diacetyl, citric acid concentration on the formation of, by lactic acid bacteria, 286  
Dihydrostreptomycin produced by direct fermentation, 160  
Disinfectants, quaternary ammonium compounds as fabric, 156  
Disinfection of large enclosures with  $\beta$ -propiolactone vapor, 152  
  
Egg albumin, agglutinating antiserum for the isolation of *Salmonella* from, 205  
Egg white, *Salmonella* antagonists in fermenting, 366, 371  
*Eidamella deflexa*, nutrition of, 133, 148  
Electrophoretic protein patterns of skim milk by *Pseudomonas* species, 335  
Enterococci and coliform bacteria, incidence of, in undisturbed soil, 60  
Enterococcus:coliform ratios in frozen chicken pies, 114  
Enzymes, proteolytic, from *Pseudomonas fluorescens*, 98  
*Escherichia coli*, factors affecting the survival of, in sea water, 243, 247, 251, 254  
Ethylene oxide, improvised chambers for gas sterilization with, 15  
Etiology of sour pit peaches, 256  
Experimental procedures concerning the survival of *Escherichia coli* in sea water, 243  
  
Fabric disinfectants, quaternary ammonium compounds, as, 156  
Factors affecting the survival of *Escherichia coli* in sea water, 243, 247, 251, 254  
Fermentation activity in the bloated dwarf rumen, 22  
Fermentation, aeration and novobiocin, 42

- Fermentation, chromatographic study of the oligomycin complex under various conditions of, 182
- Fermentation, dihydrostreptomycin produced by direct, 160
- Fermentation, kinetics of continuous, of blackstrap molasses, 136
- Fermentation of sugar cane molasses with penicillin and tetracycline, 263
- Floc-forming *Zoogloea ramigera*, isolation of, 357
- Flotation of spores of *Bacillus subtilis* var. *niger*, 91
- Flotation, separation of microorganisms by, 84, 91
- 9 $\alpha$ -Fluoro-16 $\alpha$ -hydroxyhydrocortisone, effect of medium on isomerization of, 363
- 9 $\alpha$ -Fluoro-16 $\alpha$ -hydroxyprednisolone, effect of medium on isomerization of, 363
- Food process calculations,  $P_h$  function in, 322
- Foods, sampling procedures for bacterial analysis of prepared frozen, 363
- Frozen chicken pies, enterococcus:coliform ratios in, 114
- Frozen food, survival of microorganisms in, 109
- Frozen foods, sampling procedures for bacterial analysis of prepared, 382
- Fungicide assay by spore germination in shaker flasks, 146
- Gamma irradiation, effect of, on the shelflife of prepeeled potatoes, 311
- Gas sterilization with ethylene oxide, 15
- Gibrel effects on nitrification and sulfur oxidation in soils, 31
- Glycerol production by an osmophilic yeast, 5
- Glycols, chromatographic analyses of sugar alcohols and, 169
- Goldfish assay of toxin of *Clostridium botulinum* Type A, 282
- Grass silage, study of microorganisms in, 212, 223
- Halogenated biphenols and aromatic anilides and carbanilides, antibacterial synergism between, 1
- Horse meat, salmonella in, 190
- 16 $\alpha$ -Hydroxy steroids, effect of medium on, 363
- Hydroxylation, microbiological, of progesterone, 349
- Ice cream, detection of pollution of, 199
- In vitro* bacterial resistance to chlortetracycline, 27
- Induced variation in the Rhizobia, 349
- Isolation, preferential, of actinomycetes from soils, 174
- Isomerization, effect of medium on, of 16 $\alpha$ -hydroxy steroids, 363
- Kinetics of continuous fermentation of molasses, 136
- Kinetics of microbiological deterioration, 315
- Laboratory scale activated sludge unit, 298
- Lactic acid bacteria, citric acid concentration on the formation of diacetyl by, 286
- Lactic culture activity, effect of raw milk storage and bacterial development on, 278
- Lactobacilli, persistence of, in bovine rumen during penicillin administration, 76
- Lactobacilli, study of, in grass silage, 223
- Lactobacillus bifidus*, survival of, in water, 20
- Lactobacillus viridescens*, evaluation of assay for thiamine by, 209
- Lipid formation by a nocardia, 329
- Lyophilization of *Brucella melitensis*, 52
- Lysine content of yeasts, 179
- Maintenance of *Streptomyces* in deep freeze, 339
- Mannosidostreptomycinase and streptomycin production, effect of cations on, 12
- Maple sirup, sterilizing effect of sunlight on, in transparent tubes, 141
- Meat menstua, thermal inactivation of chlortetracycline in, 305
- Media, induced variation in the Rhizobia, 349
- Media, isolation of *Zoogloea ramigera* in complex and synthetic, 357
- Media, sterility test, in the transfusion service, 274
- Media, tetracycline production in synthetic, 46
- Medium, growth of *Eidamella deflexa* in synthetic, 133
- Methionine content of yeasts, 179
- Microbial antagonists of *Salmonellae*, 366
- Microbiological deterioration, kinetics of, 315
- Microbiological hydroxylation of progesterone, 345
- Microbiological methods for elimination of *Salmonellae* from egg white, 371
- Microbiological reduction of the cortisone A-ring by *Streptomyces* sp., 237
- Microbiology of bloated dwarf rumen, 22
- Microbiology of shellfish, 104
- Microflora, effect of antibiotic and chemicals on the, of packaged salad mix, 341
- Microorganisms, roller agitators for cultivation of, 378
- Microorganisms, separation of, by flotation, 84, 91
- Microorganisms, study of, from grass silage, 212, 223
- Milk, detection of pollution of, 199
- Milk, electrophoretic protein patterns of skim, by *Pseudomonas* species, 335
- Milk storage and bacterial development, effect of raw, on lactic culture activity, 278
- Milk, thermal death time curve in, by *Mycobacterium tuberculosis* var. *bovis*, 234
- Molasses, kinetics of continuous fermentation of blackstrap, 136
- Molasses, penicillin and tetracycline in fermentation of sugar cane, 263
- Mushroom flavor in *Agaricus campestris* mycelium, 63
- Mycobacterium tuberculosis* var. *bovis*, thermal death time curve of, in milk, 234
- 1-Naphthol, Voges-Proskauer test using, purified by steam distillation, 361
- Nitrification, Gibrel effects on, in soils, 31
- Nitrobacter agilis*, nutrition and physiology of, 80
- Nocardia, *n*-alkane utilization and lipid formation by a, 329
- Nodulation test techniques in the Rhizobia, 349
- Novobiocin fermentation, aeration and, 42
- Nutrition and physiology of *Nitrobacter agilis*, 80
- Nutrition of *Eidamella deflexa*, 133, 148
- Oligomycin complex under various fermentation conditions, chromatographic study of, 182
- Organic matter, utilization of, by *Chlorella* grown in sewage, 163
- Oxygen absorption rates and *Saccharomyces fragilis*, 293
- Oxygen requirements of *Saccharomyces fragilis* in whey medium, 291
- Oysters, microbiology of, 104
- Paper electrophoretic protein patterns of skim milk by *Pseudomonas* species, 335
- Pasteurella pestis*, stability of cell suspensions of, 55
- Peaches, etiology of sour pit, 256
- Penicillin in alcoholic fermentation of sugar cane molasses, 263
- Penicillin, persistence of microorganisms in bovine rumen during administration of, 76
- Performance of roller agitators for cultivation of microorganisms, 378
- $P_h$  function in food process calculations, 322
- Physiology of *Nitrobacter agilis*, 80

- Pollution of water, milk, and ice cream, detection of, 199
- Potatoes, effect of sodium metabisulphite, antibiotics, and gamma irradiation on prepeeled, 311
- Poultry meat preservation, antibiotics in, 27
- Preservation, antibiotics in poultry meat, 27
- Progesterone, microbiological hydroxylation of, 345
- $\beta$ -Propiolactone vapor, disinfection of large enclosures with, 152
- $\beta$ -Propiolactone vapor, virucidal activity of, 39
- Protein patterns of skim milk by *Pseudomonas* species, paper electrophoretic, 335
- Proteolytic enzymes from *Pseudomonas fluorescens*, 98
- Pseudomonas fluorescens*, proteolytic enzymes from, 98
- Pseudomonas* species, paper electrophoretic protein patterns of skim milk by, 335
- Psittacosis,  $\beta$ -propiolactone vapor against viruses of, 39
- Q fever,  $\beta$ -propiolactone vapor against viruses of, 39
- Quaternary ammonium compounds, use of, as fabric disinfectants, 156
- Rhizobia, defined media and nodulation test techniques of, 349
- Rhizobia, induced variation in the, 349
- Roller agitators for cultivation of microorganisms, 378
- Rumen, microbiology of the bloated dwarf rumen, 22
- Rumen, persistence of microorganisms in bovine, during penicillin administration, 76
- Saccharomyces fragilis*, oxygen absorption rates of, 293
- Saccharomyces fragilis*, oxygen requirements of, in whey medium, 291
- Salad mix, effect of antibiotic and chemicals on the microflora of packaged, 341
- Salinity, pH, and nutrients and the survival of *Escherichia coli* in sea water, 247
- Salmonella*, agglutinating antiserum for the isolation of, from egg albumin, 205
- Salmonella* in horse meat, 190
- Salmonella typhimurium*, survival of, frozen in food substrates, 109
- Salmonellae* antagonists in fermenting egg white, 366, 371
- Sampling procedures for bacterial analysis of prepared frozen foods, 382
- Sea water, factors affecting the survival of *Escherichia coli* in, 243, 247, 251, 254
- Separation of microorganisms by flotation, 84, 91
- Sewage, utilization of organic matter by *Chlorella* grown in, 163
- Shellfish, microbiology of, 104
- Sludge unit, laboratory scale activated, 298
- Smallpox,  $\beta$ -propiolactone vapor against viruses of, 39
- Sodium metabisulphite, effect of, on the shelflife of prepeeled potatoes, 311
- Soil, incidence of enterococci and coliforms in undisturbed soil, 60
- Soils, Gibrel effects on nitrification in, 31
- Soils, preferential isolation of actinomycetes from, 174
- Sour pit peaches, etiology of, 256
- Spore germination, fungicide assay by, in shaker flasks, 146
- Spores, flotation, of *Bacillus subtilis* var. *niger*, 91
- Stability of cell suspensions of *Pasteurella pestis*, 55
- Staphylococcus aureus*, survival of, frozen in food substrates, 109
- Steam distillation, Voges-Proskauer test using 1-naphthol purified by, 361
- Sterility test media in the transfusion service, 274
- Sterilization with ethylene oxide in simple chambers, 15
- Stored dehydrated bacteria as reagents for the degradation of  $C^{14}$ -labeled sugars, 238
- Streptococci, persistence of, in bovine rumen during penicillin administration, 76
- Streptococcus faecalis*, survival of, frozen in food substrates, 109
- Streptomyces aureofaciens*, production of tetracycline in synthetic media, by, 46
- Streptomyces griseus*, effect of cations on production of mannosidostreptomycinase and streptomycin by, 12
- Streptomyces*, maintenance of, in deep freeze, 339
- Streptomyces* sp., microbiological reduction of the cortisone A-ring by, 237
- Streptomycin and mannosidostreptomycinase production, effect of cations on, 12
- Sugar cane molasses, penicillin and tetracycline in fermentation of, 263
- Sugar cane, yeasts isolated from, during production of aguardente de cana, 73
- Sugars, stored dehydrated bacteria as reagents for the degradation of  $C^{14}$ -labeled, 238
- Sulfur oxidation, effects of Gibrel on, in soils, 31
- Sunlight, sterilizing effect of, on maple sap in transparent tubes, 141
- Survival of bifid bacteria in water, 20
- Survival of *Escherichia coli* in sea water, factors affecting, 243, 247, 251, 254
- Survival of microorganisms frozen in food substrates, 109
- Swimming pools, loss of algicides in, 269
- Synergism, antibacterial, between halogenated biphenols and anilides and carbanilides, 1
- Tetracycline in alcoholic fermentation of sugar cane molasses, 263
- Tetracycline production in synthetic media, 46
- Thermal death time curve of *Mycobacterium tuberculosis* var. *bovis* in milk, 234
- Thermal inactivation of chlortetracycline in meat menstrua, 305
- Thiamine, evaluation of the *Lactobacillus viridescens* assay for, 209
- Thiosemicarbazones and their copper complexes, antifungal activity of some, 353
- Toxin, goldfish assay of, of *Clostridium botulinum* Type A, 282
- Transfusion service, sterility test media in the, 274
- Triameinolone, effect of medium on isomerization of, 363
- Tryptophan content of yeasts, 179
- Utilization of organic matter by *Chlorella* grown in sewage, 163
- Virucidal activity of  $\beta$ -propiolactone vapor, 39
- Vitamin B<sub>6</sub> in bacteria of chick, effect of chlortetracycline on, 69
- Voges-Proskauer test using 1-naphthol purified by steam distillation, 361
- Water, detection of pollution of, 199
- Water, survival of bifid bacteria in, 20
- Whey utilization, 291, 293
- Yeast, glycerol production by an osmophilic, 5
- Yeasts isolated from sugar cane during production of aguardente de cana, 73
- Yeasts, lysine, methionine, and tryptophan content of, 179
- Yellow fever,  $\beta$ -propiolactone vapor against viruses of, 39
- Zoogloea ramigera*, isolation of, in complex and synthetic media, 357

8

in

09

n-

no-

one

on,

ta-

ar-

la-

ent

ng,

and

ses,

var.

ua,

for,

ngal

282

age,

eline

dis-

guar-

79

9

hetic